Smart Fitness Display Solutions

Industry Overview

As China is seeing an increasing urbanization rate year by year, the disposable income and consumption power of the public are significantly increased. Now people tend to pay more attention to a healthier lifestyle. Above all, the outbreak of COVID-19 and the pressure from heavy work load represent the two major facts that people seek for better well-being. With more and more focus on individual health, exercises and workouts become a new trend.

The rise of Internet of Things (IoT) brings the fitness industry to an era of "Internet +". In recent years, more and more Internet companies are investing in the fitness equipment market, taking a large market share away from traditional equipment manufactures. China's fitness industry is now at a rapid growth stage driven by innovative technologies.

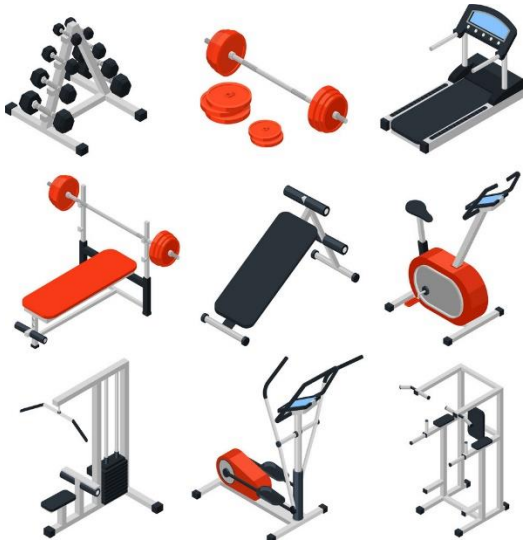
Development Status

Advanced digital fitness equipment and sophisticated services are highly valued by VCs, and the scale of fitness related industries continues to expand with a promising prospect.

The entire industry chain is divided into four layers consisting of resources, services, users and derivative services. The resource layer mainly refers to gyms, sports goods, offline training courses, etc. The service layer provides services to consumers, covering e-commerce platforms, online course platforms, service systems, etc. The user layer is comprised of people who exercise. The derivative service layer refers to sport games and activities.

Chengdu Vantron Technology Co., Ltd. is an IoT industry manufacturer that engages in the research and development of hardware and system related embedded products which lie in the resource layer, and that specializes in providing software products and supporting services for applications in the service layer.

While "Internet +" has become a crucial part of the fitness industry, the business mode of traditional equipment manufacturer has not yet undergone fundamental changes. There is huge space for improvement and profit-making in terms of either home or commercial fitness equipment. With the development of IoT technology, display technology, and smart systems in recent years, fitness equipment gradually transforms from traditional LED displays and buttons to much smarter touch screens to provide better human machine interactive experience. The systems also evolve from original SBC-based embedded systems to current intelligent operating systems like Android. Fitness equipment is acting as a carrier for services and applications that brings about quality content and enhances interactive experience. In addition, home fitness equipment is constituting an ecology of smart home with other smart appliances.



Requests & Solutions

01

There is a need for a recovery mechanism in case of abrupt power failure of the power supply unit to activate the normal shutdown procedure to prevent the user data from loss

- To add a super-capacitor or power storage unit that supplies power in the case of abrupt power failure of the power supply unit to ensure user data storage and normal shutdown of the equipment.

02

Communication is required between the master and slave devices

- To provide USB ports, serial ports, GPIO, Ethernet ports etc. and support general communication protocols.
- To provide protocol SDK and customize communication protocols with the slave device manufacturers for better control of the devices.

03

The cables and wires tend to clutter due to the requirement for different multimedia including display, communication, and audio

- To provide a USB Type-C all-in-one communication cable that allows data communication and display of input and output signals while you charge the device. As a result, one cable is enough for the master-slave communication, making the product appearance more concise.

04

Centralized management and configuration at the backend gradually become necessary for the system, such as OTA upgrade, application upgrade, etc.

- Vantron self-developed BlueSphere MDM cloud platform enables management and maintenance of remote devices, including OTA upgrade, application upgrade, content push, permission setup, parameter configuration, digital kiosk, etc.
- The system is GMS (Google Mobile Services) certified for Android applications, making it convenient to download applications from Google Play and use Google-related services.

Requests & Solutions

05

The mobile display needs to connect the heartbeat ring, sport watch, and other health detection devices to build a smart fitness system

- To support multiple wireless communication methods with Wi-Fi and Bluetooth the standard settings for the display. Wi-Fi 6 is optional as to Wi-Fi settings, and A2DP (Advanced Audio Distribution Profile), HFP (Hands Free Protocol) and HDP (Health Device Profile) are supported for Bluetooth protocols.
- To support NFC and ANT+ for connection with the smartphones, watches, Gymkit, etc.

06

The manufacturers usually provide fixed shape design for fitness equipment, so the master device needs to coincide with the equipment in terms of the appearance

- To provide VESA installation option apart from the all-in-one structure design.
- To provide open-frame design and installation schemes to fit with the equipment.

Features

- Multiple options for screens on dimensions, brightness, resolution, and view angle
- Rich communication ports and wireless communication technologies supported for connection with different devices
- Capability in developing Linux and Qt systems in addition to Android system and supporting applications to respond to the requests from different eco-models in a more flexible manner.
- Android devices having access to Google services, as well as remote management and maintenance via BlueSphere MDM platform
- A variety of hardware platform schemes supported, different pricing options available for low-cost applications and advanced intelligent applications
- Both all-in-one design and open-frame design available to shorten the Time to Market of the products

Benefits

- Creates a communication channel for users and the device to make device control more convenient and enhance user experience
- Provides different multimedia accesses to spice up the workouts
- Builds a health ecology based on the user data with other smart devices
- Supports access to health examination devices to help track and analyze user exercise data
- Fully interprets the value of exercise-related services with its powerful operatingsystemand rich applications
- Enriches the variety and enhances the fun of workouts so as to attract more users to ultimately contribute to the great vision of health for all

About Vantron

Since 2002 established by two Silicon Valley entrepreneurs, Vantron Technology has been a pioneer in connected IoT devices and IoT platform solutions. Today, Vantron serves countless customers all over the world, some of them are Fortune 500 companies. Products lines cover edge intelligent hardware, IoT communication devices, industrial displays and BlueSphere device management cloud platform.

Vantron has over 20 years of experience in R&D of embedded edge intelligent hardware like SOMboard and motherboard, and provided users with various embedded solutions with ARM and X86 architecture, from Linux to Windows, from embedded to desktop level, from gateway to server. At the sametime,we provide our users with system clipping, driver transplantation and other services.

Vantron industrial display systems, ARM and X86 series, are equipped with Rockchip, NXP, MediaTek, Intel and other high-performance processors. It supports various operating systems such as Windows, Linux, and Android. Diverse wireless communications keep your device online all the time. Multiple installation methods make it suitable for a variety of application scenarios. Features like waterproof, dustproof, shatter resistant guarantee the best performance in any environment.

Vantron has been a solution provider of IoT Gateways for many years, having accumulated very rich experience in this field. The products support both wired and wireless communication accessestomake remote operation and maintenance possible. From electricity and transportation to smartretail,medical and warehousing, Vantron IoT communication device can be deployed anywhere in any businesssection. Up to now, Vantron's IoT Gateway solutions have helped many companies finish their digital transformation, significantly improved efficiency of manufacturing and productivities.

Vantron BlueSphere device management platform, a software product, is playing a big role in Vantron overall IoT solution. Today, Vantron puts more focus on offering complete cost effective, leading-edge yet reliable solutions to help customers carry out their visions.